Total Maximum Daily Load Study: Accotink Creek

Public Meeting

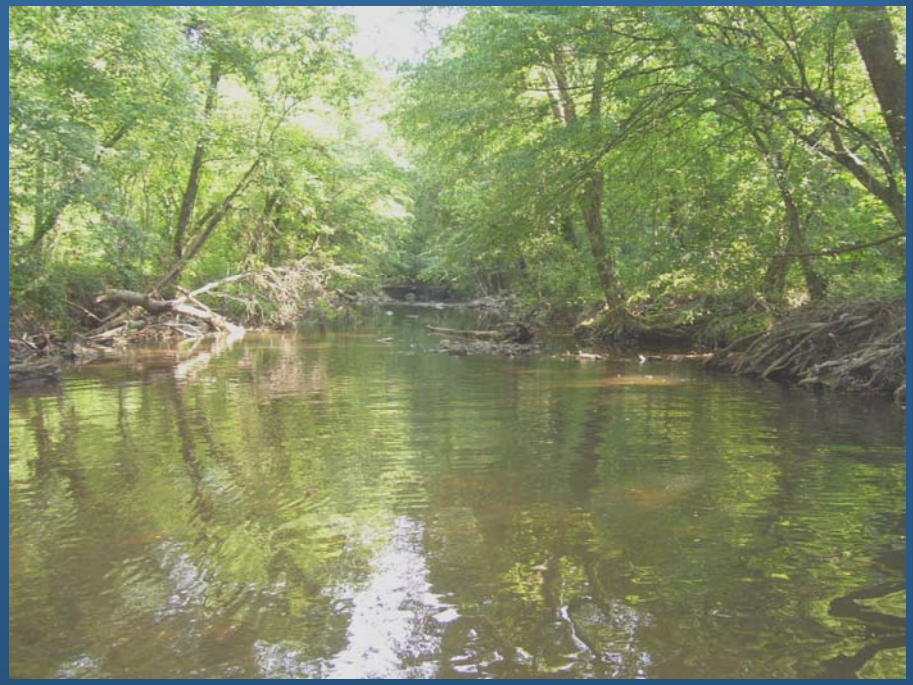
September 29, 2009

Meeting Agenda

- Welcome & Introduction
- TMDL 101
- Stressor Analysis and Technical Approach
- Questions & Comments

Why are we here?

Accotink Creek does not meet Virginia's Water Quality Standards.

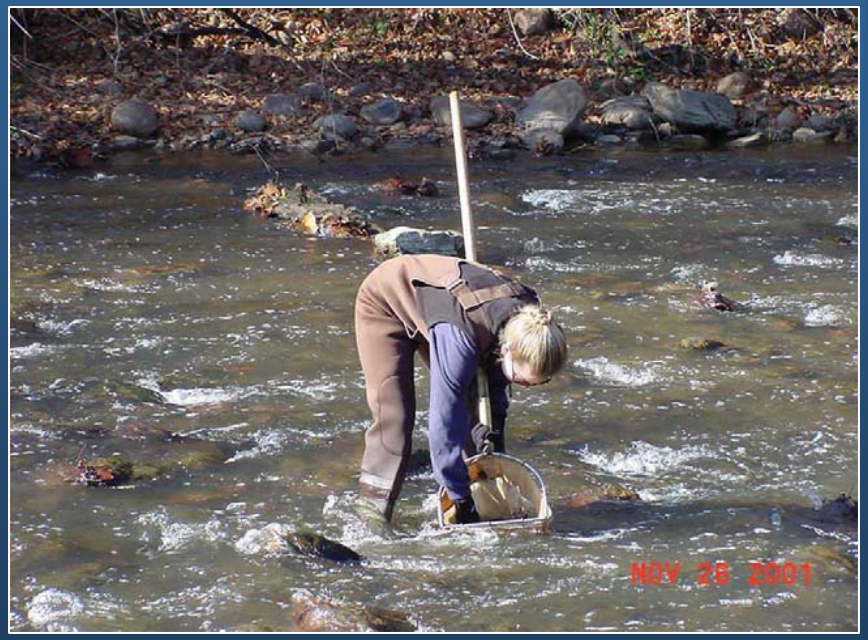


- How do we know standards aren't being met?
- Why doesn't Accotink Creek meet standards?
- What is being done to correct the problem?

Accotink Creek Watershed

How do we know that Accotink Creek doesn't meet Water Quality Standards?

- Perform physical, biological, and chemical monitoring on water bodies throughout the state
- Monitor parameters such as:
  - pH
  - Temperature
  - Dissolved Oxygen
  - Biological Community
  - Bacteria
  - Nutrients
  - Fish Tissues
  - Metals/Toxic Pollutants

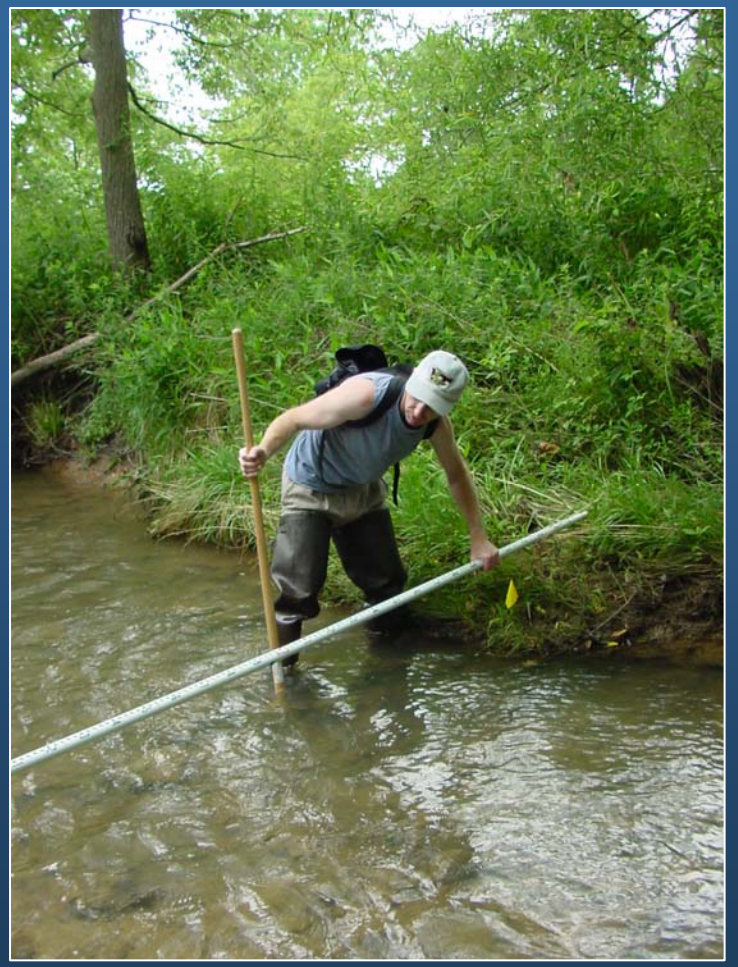


What do we do with the monitoring data that is collected?

Compare the data collected to the water quality standards

Water Quality Standards:

- Regulations based on federal and state law
- Set numeric and narrative limits on pollutants
- Consist of designated use(s) and water quality criteria to protect the designated uses



Designated Uses

- Recreational
- Public Water Supply
- Wildlife
- Fish Consumption
- Shellfish
- Aquatic Life

The attainment of the aquatic life use is evaluated by testing for the health of the benthic macroinvertebrate community, as well as for parameters such as DO and pH.

Aquatic Life Use: What are benthic macroinvertebrates?

Aquatic invertebrates that live on the bottom of streams, rivers, and other bodies of water. Visible to the naked eye.

Pollution-Intolerant Invertebrates

Mayfly

Stonefly

Moderately Pollution- Tolerant Invertebrates

Water Penny

Net Spinning Caddisfly

Highly Pollution-Tolerant Invertebrates

Segmented Worm

Leech

What happens when a water body doesn't meet water quality standards?

- Waterbody is listed as "impaired" and placed on the 303(d) list.
- Once a water body is listed as impaired, a Total Maximum Daily Load value must be developed for that impaired stream segment to address the designated use impairment.
- TMDL Studies are required by law:
  - 1972 Clean Water Act (CWA)
  - 1997 Water Quality Monitoring Information and Restoration Act (WQMIRA)

What is a TMDL ?

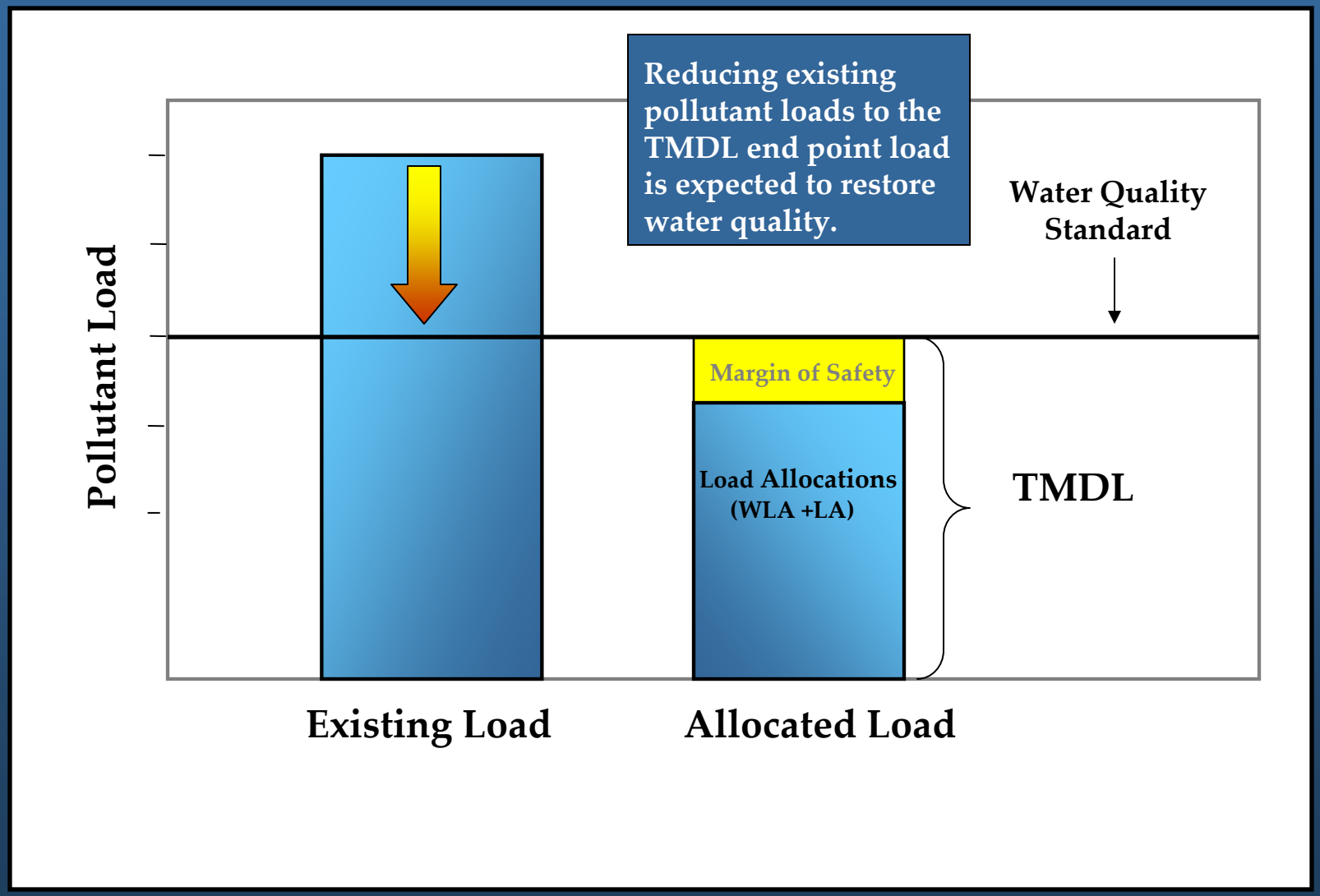
Total Maximum Daily Load

TMDL = Sum of WLA + Sum of LA + MOS

Where:

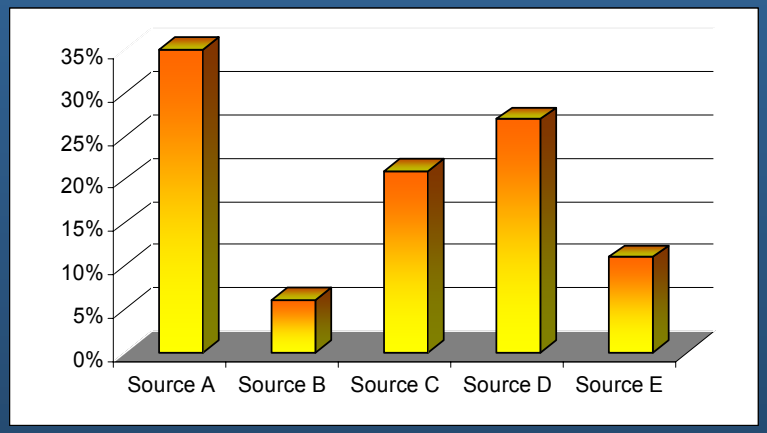
TMDL = Total Maximum Daily Load
WLA = Waste Load Allocation (point sources)
LA = Load Allocation (nonpoint sources)
MOS = Margin of Safety

An Example TMDL



TMDL Development Methodology

1. Benthic TMDL: Determine most likely stressor, then identify sources of that stressor.



2. Calculate the amount of pollutant entering the stream from each source type.

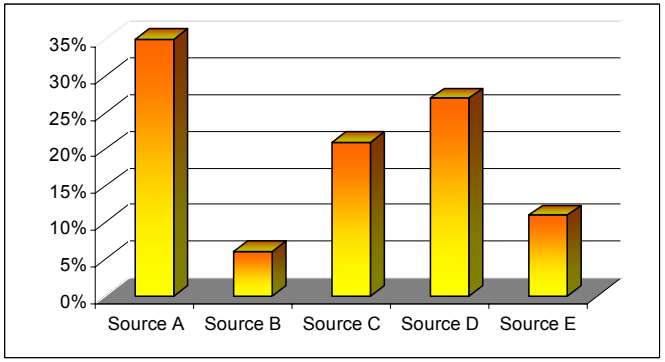
3. Enter available data into a computer model. Model simulates pollutant loadings into the watershed.

4. Use the model to calculate the pollutant reductions needed, by source, to attain Water Quality Standards.

5. Allocate the allowable loading to each source and include a margin of safety.

We are here

TMDL Study

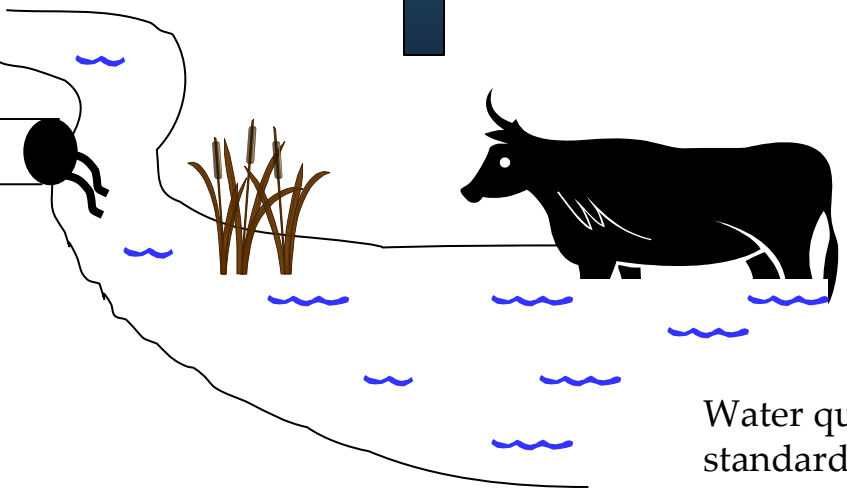


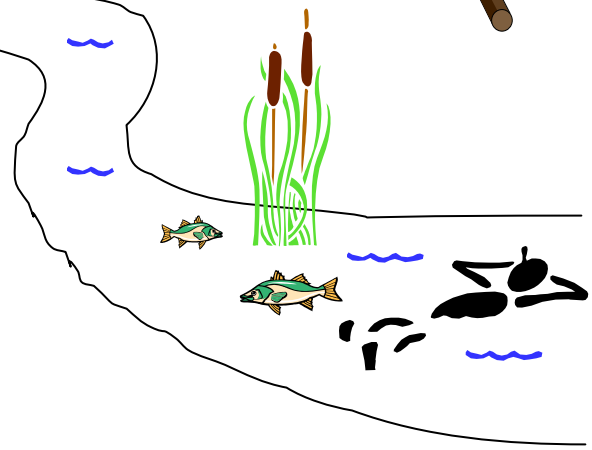
Implementation Plan

DCR

Implementation

Monitoring





Water quality standards not met

Project Schedule

Accotink Creek Benthic TMDL	Jun 2009	July 2009	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010
Data Collection and Analysis											
TAC Meeting											
Public Meeting – Introduce the Project											
TMDL Modeling											
TAC Meeting - Present Draft Allocations to TAC											
Prepare Draft TMDL Report											
Public Meeting– Present the Draft TMDL to the Public											
30 Day Comment Period on Draft TMDL											
Response to Comments											
Final TMDL											

Comments? Feedback?

- **Public Comment Period for this meeting extends from September 29, 2009 to October 29, 2009.**
- **All comments should be in writing. Please send them to:**

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